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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,945	03/16/2001	Toshiaki Katsuma	KAW-247-USAP	5294

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EXAMINER

PATEL, GAUTAM

ART UNIT	PAPER NUMBER
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2655

10

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,945

Applicant(s)

KATSUMA, TOSHIKI

Examiner

Gautam R. Patel

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5 and 6 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. This is in response to amendment filed on 03-05-04 (Paper # 9).
2. Claims 1-2 and 4-6 remain for examination.

Specification

3. The disclosure is objected for following reasons.

The Applicants have claimed "benefit" of US Patent application Sugita 09/805,226, filed on March 14, 2001, now US Patent 6,545,821.

It is not clear what kind of benefit the Applicants are claiming. If it is 119 (a)-(d), it must be submitted in proper forms with related application. If Applicants are pointing to another application by the same Applicants, no benefits are involved.

At this time these changes to specification will **not** be entered.

Explanation and/or correction are required.

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 5-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sugiura et al., US. patent 6,130,872 (hereafter Sugiura). in view of Kamihara et al., US. patent 5,695,274 (hereafter Kamihara).

As to claim 1, Sugiura discloses the invention as claimed [see Figs. 1-28, especially 1, 3 and 8] including A diffraction type lens and zone plates, comprising:

A diffraction type lens [fig. 1, unit 50], disposed in a luminous flux, having a wavelength selectivity;

said lens being constituted by a substrate having one surface [surface 51] formed with a zone plate [fig. 1, unit 50] exhibiting a smaller converging action with respect to a wavelength X1 [650 nm] of light and a greater converging action with respect to a wavelength X2 [780 nm] of light, and the other surface [surface 52] formed with a zone plate exhibiting a smaller converging action with respect to said wavelength X2 of light and a greater converging action with respect to said wavelength X1 of light, said substrate being transparent to said wavelengths X1 and X2 of light, wherein each of said zone plates having a rectangular cross section [see figs. 19 and 23] [col. 6, lines 42-67 and col. 8, lines 2-19].

Sugiura discloses all of the above elements, including a zone plates with a rectangular cross section and having two surfaces. Sugiura does not specifically discloses that zone plates could be formed comprising concentric gratings.

However, concentric gratings [with rectangular cross section] are well known in the art for a long time [e.g., see Mino et al.; US patent 3,756,695]. it is well known in the art that most gratings are selected according to the system requirements and their shape is chosen accordingly. And desired beam shape can be obtained by combining concentric grating patterns., and light beam may be deformed into an arbitrary beam [even triangular shape]. Also Kamihara clearly discloses:

zone plate comprises concentric gratings having a rectangular cross section [col. 14, lines 23-49 and fig. 27a and 27b]. Both Sugiura and Kamihara are interested in improving the optical system and providing best diffraction grating suitable for particular system and forming desired beam shapes as needed.

One of ordinary skill in the art at the time of invention would have realized that ease in manufacturing the gratings is good function have especially for mass

production. Therefore, it would have been obvious to have used a concentric gratings in the system of Sugiura as taught by Kamihara because one would be motivated to reduce cost of manufacturing and also convert light flux with high efficiency thus saving money in the manufacturing cost [col. 5, lines 18-35; Kamihara].

5. As to claim 2, Sugiura discloses:

said diffraction type lens is shaped like a parallel plate [col. 6, lines 42-67 and col. 8, lines 2-19].

As to claim 5, it is rejected for the similar reasons set forth in the rejection of claim 1, supra. As to the added limitation of flux incident on the lens is substantially parallel [see col. 9, line 55 to col. 10, line 9; Sugiura].

6. As to claim 6, Sugiura discloses:

luminous flux is converged at a position where two kinds of optical recording media having thickness values different from each other are disposed, said wavelength X1 of light being used for recording or reproducing one optical recording medium [DVD], said wavelength X2 of light being used for recording or reproducing the other optical recording medium [CD] [col. 6, lines 11-67 and col. 8, lines 2-19].

Sugiura and Kamihara were cited as prior art references in paper no. 8, mailed 12-9-03.

7. Applicant's arguments filed on 03-05-04 (Paper # 9) have been fully considered but they are not deemed to be persuasive for the following reasons.

8. In the REMARKS, the Applicant argues as follows:

A) That: "The Examiner has failed to show that a combination of the two references will result in anything that is new and useful for any purpose whatsoever." [page 7, para. 2; REMARKS].

FIRST: As to the best knowledge of the Examiner, he is NOT trying to invent anything here that is new and useful. The Examiner is trying to judge if what is claimed so far is new and useful, so Examiner does not have to show anything that is new and useful.

SECOND: The examiner assumes that the Applicant indeed has something new and useful, and according to Examiner that part is in claim 4.

B) That: "On the other hand the Examiner proposes that one merely substitute the circular gratings of Kamihara. Te Kamihara '274 reference teaches gratings only on one side. However, the Examiner proposes placing of gratings on both sides in order to create Applicant's claimed diffraction type lens ..." [page 7, para. 2; REMARKS].

FIRST : Careful examination of last action shows that Kamihara was NOT used for circular shape of the gratings at all. Kamihara was used for the gratings with a rectangular cross section [fig. 27b] and concentric gratings.

SECOND: Also Kamihara was NOT used for placing of gratings on both sides, Sugiura was used for that aspect, and Sugiura indeed shows that.

C) That: "§ 103 throughout uses the word "invention". Invention, as pointed out above, encompasses a known new and useful process, ... The Examiner here has failed to show that the combination of the two references, Kamihara and Sugiura , produces anything which would be useful." [page 7-8, para. 4 to 1; REMARKS].

FIRST: Please see arguments in paragraph 8 section A) supra.

SECOND: I hope the Applicant is not arguing that they have nothing new and useful, since it has been pointed out that what § 103, talks about is applicable to the inventor and his invention and not the Examiner. Examiner does not have burden of inventing anything new and/or useful.

D) That: "since the Examiner's combination of Sugiura and Kamihara yields a device Therefore, there is clearly no suggestion of Applicant's invention as required

by *In re Sernaker* 217 USPQ 1. Still further, there is no teaching within the reference that one skill in the art should look to the other reference for any purpose.

FIRST: Kamihara indeed gives a reason for combination as pointed out above.

SECOND: it should also be pointed out that;
The test of the obviousness is:

"whether the teachings of the prior art, taken as a whole, would have made obvious the claimed invention,". As shown in *In re Gorman*, 933 F. 2d at 986, 18 USPQ2d at 1888.

Subject matter is unpatentable under section 103 if it "'would have been obvious to a person having ordinary skill in the art.' While there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, **it is not necessary that the cited references or prior art specifically suggest making the combination.**" As shown in *In re Nilssen*, 851 F. 2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988).

Such suggestion or motivation to combine prior art teachings can derive solely from the existence of a teaching, which one of ordinary skill in the art would be presumed to know, and the use of that teaching to solve the same [or] similar problem which it addresses." As shown in *In re wood*, 599 F. 2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979).

"In sum, **it is off the mark for litigants to argue, as many do, that an invention cannot be held to have been obvious unless a suggestion to combine prior art teachings is found *in* a specific reference.**" As shown in *In re Oetiker*, 24 USPQ2d 1443 (CAFC 1992).

Accordingly, Sugiura or Kamihara is not required to disclose or specifically suggest particular elements. Instead the measure is what the teachings of Sugiura or Kamihara would suggest to one of ordinary skill in the art, not what Sugiura or Kamihara specifically suggests.

E) That: "Applicant's concentric gratings (claim 1) allow use without and objective lens (see Figures 2A, 2B). Applicant's claimed concentric grating diffraction lens also

functions as the objective lens, thus eliminating need for Sugiura's lens (4)." [page 7, para. 2; REMARKS].

FIRST : This aspect of not requiring the objective lens has NOT been claimed.

SECOND: Even if it was claimed combining parts for compact design it not patentable as such.

Allowable Subject Matter

9. Claim 4 is objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

NOTE: Claim 4 is allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose a diffraction type lens which includes "one surface formed with height h1 and second with height h2 which satisfying four equations as disclosed in claim 4 and values of K1 and K2 are between 0.65 to 1.35". It is noted that the closest prior art, Sugiura et al. (US 6,130,872) shows a similar apparatus which has dual light sources with two different wavelengths and also computes the surface of the lens [fig. 3] based on height [thickness] and refractive index and also clearly indicates relationship of two wavelengths and refractive index [figs. 20 and 21]. Also Kamihara shows relationship between depth [or height], wavelength and refractive index [see col. 14, lines 40-49]. However Sugiura and Kamihara fails to disclose details of the equations used in these calculations in specific manner as claimed in claim 4, especially limits constants K1 and K2..

Other prior art cited

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Honguh et al. (US. Patent (5,995,303) "Optical element")

11. **THIS ACTION IS MADE FINAL.** See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.



Gautam R. Patel
Primary Examiner
Group Art Unit 2655

April 6, 2004